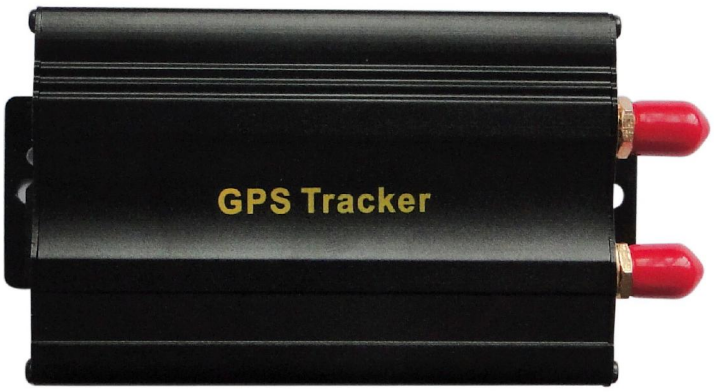
GSM/GPRS/GPS Vehicle Tracker
TK103A/B User Manual



Preface

Thank you for purchasing the tracker. This manual shows how to operate the device smoothly and correctly. Make sure to read this manual carefully before using this product. Please note that specification and information are subject to changes without prior notice in this manual.

Any change will be integrated in the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

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1. Function Introduction

1.1 This tracker is a new product based on the GSM / GPRS network and GPS satellite positioning system, which set multiple functions of security, positioning, monitoring surveillance, emergency alarms and tracking in its entirety. It can track and monitor remote target by SMS or internet.

1.2 Features

1.2.1 Support both GPS / GSM station positioning ways.

1.2.2 Support SMS/GPRS/Internet Network data transmission (GPRS/Internet instructions in CD enclosed）

1.2.3 Support GPRS on-line and GPRS re-connected automatically if GPRS drops

1.2.4 Support SMS / GPRS dual-mode switching

1.2.5 Support configuration by remote terminal.

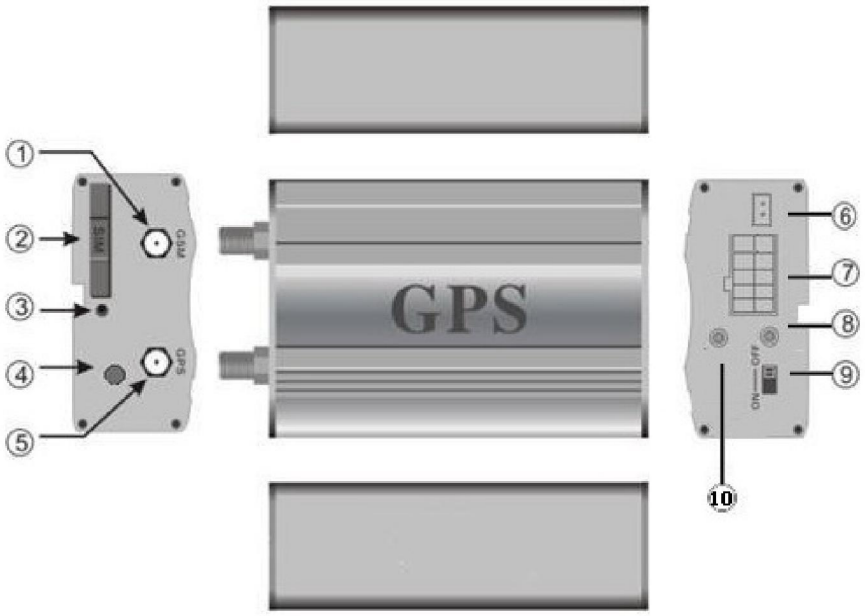
1.2.6 Support for point-to-point, point to group, group-to-group monitoring.

1.2.7 Set multiple functions of security, positioning, monitoring surveillance, emergency alarms and tracking in its entirety.

2. Applications

Used widely for vehicle and other moving objects tracking.

3. Hardware Description



①. GSM Antenna connector

②. SIM card slot

③. SIM card slot Pop-up switch

④. Monitor jack

⑤. GPS Antenna connector

⑥. Sensor jack

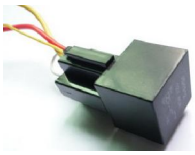
⑦. External harness connection jack

⑧. Power/GSM/GPS LED indicator

⑨. Backup battery switch

⑩. Remote controller receiver antenna （Option, For model B only）

4. Accessories

NO.	PHOTOES	NAME	NOTE
1		GPS Antenna	3 meters
2		GSM Antenna	3 meters
3		Microphone	1.5 meters
4		Harness	10PIN
5		Relay	12V/40A to 24V/40A according to vehicles
6		Shock sensor	Option for both model A and B
7		Siren	Option for both model A and B
8		Remote controller	Option for model B ONLY

5. Specifications

Content	specifications
DIM.	83*54*26mm
Weight	120g
Network	GSM/GPRS
Band	850/900/1800/1900Mhz
GSM/GPRS Module	SIM900B
GPS Module	SIRF3 chip
GPS Sensitivity	-159dBm
GPS Accuracy	5m
GPS Start time	Cold status 45s Warm status 35s Hot status 1s
Voltage of car power system	12 V -24V
Backup battery	Chargeable changeable 3.7V 800mAh Li-ion battery
Storage Temp.	-40°C to +85°C
Operation Temp.	-20°C to +65°C
Humidity	5%--95% non-condensing

6. Operating Instructions

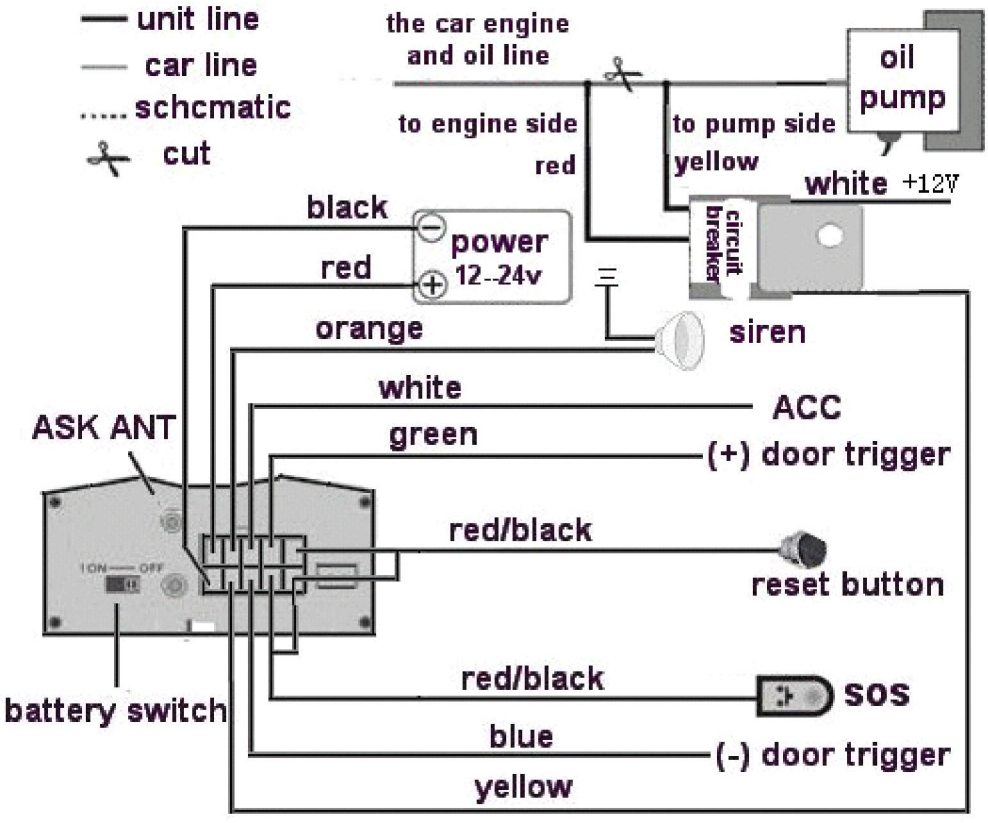
6.1 Terminal Installation

6.1.1 Please ask the qualified engineers to install it.

6.1.2 Do not install it in an environment which is over GSM performance, and please pay attention to fix the antennas in an appropriate position with good signals.

6.1.3 Pay attention to make installation location preventing water and dust.

6.1.4 Find the 10 PIN harness and insert it into the corresponding holes of the products, and connect the wires with the original car circuit showing below:



Wiring diagram

6.1.5 Note: The orange wire can be connected to the original car horn; it can also be connected to the siren you buy with the tracker. (Siren is Option)

6.1.6 Knowing about the type of the door trigger is positive or negative trigger.

Please connect the green wire to the door control circuit if it is positive, and connect blue wire if it is negative.

6.1.7 Please install the Reset button and SOS button on the place driver can touch.

6.1.8 Insert the shock sensor plug into the sensor jack. (Shock sensor is Option)

6.1.9 Insert the external monitor Microphone into the monitor jack.

6.1.10 Connected the GPS and GSM antenna to the right connector, and find a appropriate place and fix the antennas to make sure it receive signals very well.

6.2 SIM CARD Installations

6.2.1 Use a tweezers or a sharp thing to touch the SIM CARD popup switch, the SIM CARD slot will pop up, take out the SIM card slot and put SIM card in it. And then put the SIM card slot back to its original position after confirm the SIM card in the right place.

6.2.2 Please make sure that the SIM card is able to execute the function of incoming calls display, no calls can be diverted and the PIN code is locked. The SMS format must be TXT format, and can't recognize the PDU format.

6.3 Turn on the Tracker Device.

6.3.1 Connect the positive and negative wire, red and black ones, with 12V or 24V car power system, wait for 1 minute after connecting power to wait tracker works normal, and then turn on the backup battery switch.

6.4 GSM/GPS LED Indicator

6.4.1 Red LED indicator on: No GSM network signals.

6.4.2 Red LED indicator flashes fast (one time each second): GSM Network signal is normally, and tracker works under GSM mode.

6.4.3 Red LED indicator flashes slowly (one time each three second): Tracker works under GPRS mode.

6.4.4 Green LED indicator on: GPS signal is normal.

6.4.5 Green LED indicator off: No GPS signals.

6.5 Initialization

Send SMS “begin+password” to the unit, it will reply “begin ok” and initialize all the settings to default factory settings.（default password: 123456）

For example: send SMS “begin123456”, it will reply “begin ok”. (No quotation marks“” when sending all the SMS)

6.6 Change Password

6.6.1 Send SMS “ password+old password+space+new password” to the unit to change the password.

For example: send SMS “password123456 888888” to the unit. If succeeded, “password ok” will reply to your cell phone from the device tracker.

6.6.2 Be sure to keep the new password in mind, you have to upload the

software to restore the original setting in case of losing the new password.

6.6.3 Attention: Make sure the new password is in 6 digits Arabic numbers, or else the tracker cannot recognize the password.

6.6.4 **The "+" in the command, please don't type "+", space means press the space keyboard on your cell phone.**

6.7 Authorization

There are 5 numbers to be allowed to authorize in the tracker at most.

6.7.1 Call and track the tracker device for 10 times from cell phone in success, it will make the cell phone number as the authorized number automatically, and reply "add master ok".

6.7.2 Authorization: Send SMS "admin+password+space+cell phone number" to set up an authorized number, the other authorized numbers should be set by the first authorized number, if the number is successfully authorized, the unit will reply" admin OK" by SMS.

6.7.3 Delete authorization: Send SMS" noadmin+password+space+authorized number" to delete the authorized number.

6.7.4 If you want to track the target tracker device when it enters into another country, you must add the country code before the cell phone number, for example, send SMS" admin123456 008613322221111" to the device. Note: 13322221111 will be set up as the authorized number.

6.8 Single Locating

6.8.1 Any number call the tracker device, it will reply a SMS including the position of latitude and longitude if don't set up the authorized number. If authorized number has set successfully, the device won't reply SMS including the positioning of latitude and longitude when the unauthorized number dials up it.

6.8.2 Dialing the tracker device from the authorized number, it will hang up your calling and respond to a real-time latitude and longitude information as following:

6.8.3 When GPS signals is weak, The SMS including the position of latitude and longitude is the position that the tracker received GPS signals at last. If it is different with its exact current location, pay attention to check the time included in the SMS you got.

6.9 Auto track continuously

6.9.1 Send SMS command "fix030s005n +password" to the tracker device, it will report the Geo-info at 30s intervals for 5 times. (s:second, m:minute, h:hour). This command set must be in 3 digits and the maximum value is 255.

6.9.2 Send SMS “fix030s***n+password” to the tracker device, it will reply the Geo-info continuously at 30 seconds intervals.

6.9.3 Cancellation: Send SMS “nofix+password” to the tracker device to cancel the “auto track”.

Note: the interval must not less than 20s.

6.10 Get location in absolute street address

6.10.1 You must set up the APN of your local GSM network for the SIM card in tracker first before using this function, if there is user name and password for GPRS login, Please refer to 6.27 and 6.28 to configure the APN, user name and password for GPRS login.

6.10.2 After configure the APN, send address+password to device, it will reply SMS including real street/address name. For example: No.113, Nantou Guankou 2nd Rd. Nanshan district, Shenzhen, Guangdong, china.

6.11 Location based service (LBS)

When the tracker device doesn’t received valid GPS signals, tracker will positioning by location based service(LBS), the messages includes the GPS coordinates of the last position in SMS mode, but the LAC in message is the current new position, the location can be seen by input the LAC code in the menu “Manual Track” of web platform www.gpstrackerxyz.com, you can also send command “address+password” to tracker to get the newest absolute

address and GPS coordinates as well; tracker will automatically switch to track by location based service in GPRS mode, and actualized on the map of web server with LBS mark. And there may be some inaccuracy with actual location by LBS tracking; the bias depends on GSM reception.

Note: This feature can be used normally in most areas according to the signal of GSM network. It may not be available in some areas.

6.12 Monitor

6.12.1 The command to switch between Track and Monitor are “tracker” and “monitor”.

6.12.2 The default mode is “track” (Track mode).

6.12.3 Send SMS “monitor+password” to the unit, and it will reply “monitor ok!” and switch to “monitor” mode.

6.12.4 Send SMS “tracker+password” to the unit, it will reply “tracker ok!” and restore to “track” mode.

6.13. Alarms

6.13.1 Low battery alarm

When the voltage of the tracker device is near 3.6V, it will send SMS “low battery+lat./long information to the authorized number in 3 minutes interval.

6.13.2 Power off alarm

When the power be cut off or the voltage is 0V, the tracker device will send SMS “power alarm+lat./long. to the authorized number in 3 minutes interval.

6.13.3 SOS

Long Press the SOS button for 3 seconds（For model B, press B button on remote controller for 3 seconds）, the tracker device will send SMS “help me!+lat./long. to all the authorized numbers in 3 minutes interval. It will stop sending such a SMS when any authorized number reply SMS “help me!” to the tracker.

6.13.4 Geo-fence

Set up a geo-fence for the tracker device to restrict its movements within a district. The unit will send SMS to the authorized numbers when it goes out of this district.

Set up: When the unit stays immobile in a place for 3-10 minutes, the user can send SMS “stockade+password+space+latitude,longitude;latitude,longitude” to unit to set the restricted district. In case of breach, it will send SMS “stockade!+geo-info” to the authorized numbers in 3 minutes interval.

Remark: The first latitude & longitude is coordinate of the top left corner of the Geo-fence, while the second latitude & longitude is the coordinate of the bottom right corner, it will alarm in 3 minutes interval.

Cancel: Send SMS “nostockade+password” to deactivate this function.

6.13.5 Movement alarm

Set up: when the unit stays immobile in a place for 3-10 minutes, the user can

send SMS “move+password” to the tracker device. It will reply “move OK”. In case of such a movement (the default distance is 200m), it will send SMS “Move” along with a Geo-info to the authorized numbers in 3 minutes interval.

Cancel: Send SMS “nomove+password” to deactivate the movement alarm.

6.13.6 Overspeed alarm

Set up: Send SMS “speed+password+space+080” to the unit (suppose the speed is 80km/h), and it will reply “speed OK!”. When the target moves exceeding 80km/h, the unit will send SMS “speed+080!+Geo-info” to the authorized numbers in 3minutes interval.

Cancel: Send SMS “nospeed+password” to deactivate the overspeed alarm.

Remark: The recommended speed should be not less than 30km/h. For below that rate, it will be effected the accuracy by gps signals drift etc.

6.14 Cut off the Oil and Power System

Send SMS command “stop+password” to the tracker device, it will reply “Stop engine Succeed” to your cell phone from the tracker device, and stop your car engine as well, at the same time. It will remain the immobile state until receiving the next SMS command of resuming the oil and power once receiving SMS command to cut off the oil and power system.

6.15 Resume the Oil and Power System

Send SMS command “resume+password” to the unit, It will reply “Resume

engine Succeed" and resume your car engine as well, at the same time. It will remain this state until receiving the next SMS command to cut off the oil and power system once receiving SMS command to resume the oil and gas system.

6.16 Arm

6.16.1 Set up arm by SMS

Send SMS command "arm+password" to the tracker device in the vehicle. It will reply "Tracker is activated" in both armed and disarmed state, and the SMS command will make the tracker device enter into armed state if the unit currently disarmed.

User must stop the engine, (that is ACC is lower voltage).Sending SMS "arm+password" when close the door and left. You will set up arm status fail if the engine is turned on (the ACC is high voltage), it will reply "set up fail! pls turn off ACC"

6.16.2 Set up arm by remote controller (Option, for model B ONLY)

Press "A" button on the remote controller, the car enters into armed state and the siren will beep one time, no SMS reply.

6.17 Disarm

6.17.1 Disarm by SMS

Send SMS command "disarm + password" to the tracker device in the vehicle, It

will reply “Tracker is deactivated” in both armed and disarmed state, and the SMS command will make the tracker device enter into disarmed state if the unit currently armed.

It won’t alarm if the door is open and sensor is vibrated and the engine is started when deactivated this arm function.

6.17.2 Disarm by remote controller (Option, for model B ONLY)

Press “B” button on the remote controller, the car enters into disarm state, and the siren will beep two times, no SMS reply.

6.18 Function of Remote Controller (Option, for model B ONLY)

ARM	Press “A” button for 0.5 second, the siren will beep one time.
DISARM	Press “B” button for 0.5 second, the siren will beep two times.
Silent mode	Press “A+B” together for 0.5 second when it is in disarm state, the siren will beep three times.
Quit silent mode	Press “A+B” together for 0.5 second again when it is in disarm state, the siren will beep four times.
Deterrence	Long press “A” button for 3 seconds, siren will be sound for 10 seconds, press “A” or “B” button to quit
SOS	Long press “B” button for 3 seconds, device will send SOS alert to authorized phone numbers.

6.19. Alarms under Arm State

6.19.1 door alarm

The unit will send SMS “Door alarm+lat/long” to the authorized number in 3 minutes interval when the door of the car opens in arm status; Siren will be sound for 30 seconds, and circle again after stop 1 minute, send “disarm+password” to stop it.

6.19.2 Shock Sensor alarm

The unit will send SMS “Sensor alarm+lat/long” to the authorized number in 3 minutes interval when the sensor is triggered in arm status; Siren will be sound for 30 seconds, and circle again after stop 1 minute, send “disarm+password” to stop it.

6.19.3 ACC alarm

The unit will send SMS “ACC alarm+lat/long” to the authorized number in 3 minutes interval when the engine of the car is turned on, that is the key is rotated to ACC.ON position to start the car in arm state; Siren will be sound for 30 seconds, and circle again after stop 1 minute, send “disarm+password” to stop it.

6.20. Silent Mode

6.20.1 Set up silent mode by SMS

Send SMS “silent+password” to tracker device, it will reply “silent ok!”.It

means tracker device enters into **silent mode**, siren won't be sound after alarm is triggered, but tracker will send alarm SMS to authorized number.

Quit silent mode send SMS "loud+password" to tracker device, it will reply "loud ok!". It means tracker quit from silent mode, siren will be sound after alarm is triggered, and it will also send SMS alarm to authorized number.

6.20.2 Set up silent mode by remote controller (Option, for model B ONLY)

Silent mode Press "A+B" together in disarm state for 0.5 second, the siren will beep three times, siren won't be sound after alarm is triggered, but tracker will send alarm SMS to authorized numbers.

Quite silent mode Press "A+B" together in disarm state for 0.5 second again, siren will beep four times. Siren will be sound after alarm is triggered. And tracker will also send SMS alarm to authorized numbers.

6.21. Alarm without GSM network service

When the car is in the place without GSM network service, siren will be sound under non-silent mode if alarm is triggered (door, sensor, ACC), but no SMS alarm will send to authorized number.

6.22 Check the Vehicle State.

Send SMS command “check+password” to the tracker device in the vehicle, It will reply the status of the power, battery, GPS, ACC, door, GSM signal to the authorized numbers. For example: Send SMS “check123456” to the tracker device in the vehicle, It will reply following SMS.

Power: ON

Battery: HIGH

GPS: OK

ACC: Off

Door: Off

GSM Signal: 1-32(performance). Note: The higher digit it shows; the stronger of GSM signals it receives.

6.23 Tracker’s Hardware Resetting

6.23.1 SMS Reset

Send SMS “reset+password” to tracker device to reset the GSM module and GPS module of the tracker device, it will reply “reset ok”.

6.23.2 Reset Button Resetting

Press the reset button for 1 second, hardware of tracker device will reset.

6.24 IMEI Checking

Send SMS command "imei+password" to the unit. E.g. Send SMS command "imei123456" to the tracker device, an IMEI number in 15 digits will reply to your cell phone.

6.25 Terminal (local) Time Setting

6.25.1 Send SMS command “time+space+zone+password+space+time” to the tracker unit, If succeed, It will reply “time OK”

6.25.2 For example: Send SMS “time zone123456 8”, 8 is Chinese time zone, If your country time zone is minus, send SMS “time zone123456 -8”.

6.26 GPRS Setting

User must send SMS via cell phone to set up APN, IP and port before starting tracking by GPRS.

6.27 Setting up APN

6.27.1 APN standards for Access Point Name and differs from country to country. For more information about your local APN, please inquire with your local GPRS network operator.

6.27.2 Text the tracker a SMS “APN+password + Space + your local APN” via a cell phone and if succeeded, the tracker will return the message “APN OK”.

6.27.3 E.g. Send SMS command “APN123456 CMNET”. If succeeded, “APN OK” is returned by the tracker in SMS.

Notes: 123456 refer to password of tracker and CMNET is the APN of one of china GPRS Network Operator (China mobile).

6.28 GPRS User Name and password Setup

6.28.1 In most countries, the user name and password involving GPRS login are not compulsorily necessary, therefore, the entry can be skipped. For those countries requiring user name and password, please configure as following:

6.28.2 Send SMS “up+password+space+user+space+password”If succeeded, “user, password ok!” is returned by the tracker in SMS.

6.28.3 For instance, send SMS “up123456 jonnes 666666” to the tracker, and if succeeded, the tracker returns “user, password OK”

Note: 123456 is tracker device password, jonnes is the user name for GPRS login, 666666 is the password for GPRS login.

6.29 IP and Port Setup

6.29.1. Send SMS as below via a cell phone: adminip + password + Space + IP Address + Space + Port Number. If succeeded, “adminip OK” is returned by

the device in SMS.

6.29.2 E.g. Send SMS command “adminip123456 202.105.131.245 9000” to the tracker device, If succeeded, “adminip OK” is returned by the device in SMS. (123456 is default password，202.105.131.245 is IP，9000 is port).

6.30. Modes Switch between “SMS” and “GPRS”

6.30.1 The default mode is “SMS”

6.30.2 Send SMS “GPRS+password” to the unit, and it will reply “GPRS ok!” it means tracker device has switched to “GPRS” mode.

6.30.3 Send SMS “SMS+password” to the unit, it will reply “SMS ok!” and restore to “SMS” mode.

6.31 Web platform and PC installation tracking software user manual

6.31.1 Web based platform www.gpstrackerxyz.com. Configuration IP: 202.105.131.245 Port: 9000. Please check “software platform user manual” included in the CD for detailed operation information.

6.31.2 PC based installation tracking software user manual included in the CD in package.

7. Cautions

Please comply with the instructions to extend the unit life:

1. Keep the unit dry. Any liquid, i.e. rain, moisture, may destroy or damage the inside circuitry.

2. Don’t use & store the unit in dusty places.

3. Don’t put the unit in overheated or overcooled places.

4. Handle carefully. Don’t vibrate or shake it violently.

5. Clear the unit with a piece of dry cloth. Don’t clean in chemicals, detergent.

6. Don’t paint the unit, this may cause some foreign materials left in between the parts.

7. Don’t disassemble or refit the unit.

8. Please read the user manual carefully before installation and operation, learn something more about the voltage range. Otherwise, it won’t work properly or destroy the product.

8. Faults & the Solutions

Faults	Solution
Startup Fail	Please check out the power wiring in correct place.

Call Fail	Check the GSM antenna connected. Check whether the SIM card in place. Check whether the normal power supply voltage.
Hang up Fail	In existence of an authorized number, an unauthorized number dials up the unit. Please initialize the unit and re-set up the authorized numbers.
Monitor Fail	Check if the authorized number is setup
Location report in digits of zeros.	Check out if the GPS external antenna well.